

FIG. 3
(Claim 21)



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[54] **OPTICAL FIBER RAMAN LASER**

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[52] **U.S. Cl.** 372/6; 372/3

[58] **Field of Search** 372/6, 3

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[57] **ABSTRACT**

An optical fiber Raman laser includes an optical fiber which is a nonlinear optical medium, for implementing a nonlinear Stokes frequency shift; a wavelength-division multiplexing optical fiber coupler means, coupled to said optical fiber in parallel, for separating each Stokes frequency shifted wavelengths and pump wavelength, for internally resonating the Stokes frequency shifted light wavelengths and for output-coupling said laser output light which is a second order Stokes frequency shifted wavelength; a first fiber Bragg grating means connected to said wavelength division multiplexing (WDM) optical fiber coupler means in serial, for transmitting light of the pump source and for selecting output wave of the Raman laser; and a second fiber Bragg grating means connected to said wavelength division multiplexing (WDM) optical fiber coupler means, which has maximum reflectivity on the wavelength of the pump source, for full-reflecting and re-inputting the light of the pump source to said optical fiber.

5 Claims, 5 Drawing Sheets

